

Abstract

The invention relates to a method for arranging communication between terminals (MT1–MT4) and an access point (AP1, AP2) in a communication system (1) applying data transmission frames (FR). The data frames (FR) comprise at least uplink time slots (UL) for performing data transmission from the terminals (MT1–MT4) to the access point (AP1, AP2), and downlink time slots (DL) for performing data transmission from the access point (AP1, AP2) to the terminals (MT1–MT4) via a wireless communication channel. In the method, the terminals (MT1–MT4) can be allocated one or more time slots (702–707, 802–807) of said frames. In the method, the spatial signature of at least said two terminals (MT1–MT4) is determined, and in at least part of said frames (FR), at least partly simultaneous time slots (704–707, 802–804) are allocated to at least two terminals (MT1–MT4). In the method, measurements are also taken to estimate the timing and frequency offsets and the properties of the communication channel, which measurements are taken at least partly on the basis of a signal transmitted by the terminal (MT1) to the access point (AP1, AP2), wherein the results of said measurements are used to select the terminals (MT1–MT4) to which simultaneous time slots (702–707, 802–807) are to be allocated. During said measurements, the other terminals (MT1–MT4) communicating with the access point (AP1, AP2) do not transmit a signal to said access point (AP1, AP2).

Fig. 3